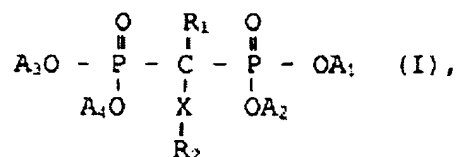


**In the Claims:**

Please cancel claims 21 and 39 without prejudice or disclaimer.

The following claims 15-18, 22-25, 29-30, 33, 35, 38, 40, 44-45 and 47 are amended, as indicated in the marked up version included with this response as Attachment A.

- DI 15. (Amended) A medicament for treating an autoimmune disease or allergy, comprising a first active ingredient selected from the group consisting of bisphosphonic acids corresponding to general formula (I)



in which

A<sub>1</sub>, A<sub>2</sub>, A<sub>3</sub> and A<sub>4</sub> are independently selected from the group consisting of hydrogen, substituted and unsubstituted alkyl, substituted and unsubstituted aryl, substituted and unsubstituted aralkyl, substituted and unsubstituted cycloalkyl, substituted and unsubstituted heterocyclic residues, metals of Groups I, II and III of the Periodic Table of the elements, and substituted and unsubstituted ammonium or ammonium compounds derived from ethylenediamine or amino acids,

X is absent or is selected from the group consisting of alkylene, alkenylene and hydroxyalkylene,

R<sub>1</sub> and R<sub>2</sub> are independently selected from the group consisting of

H, OH, -NH<sub>2</sub>, substituted and unsubstituted acyl, substituted and unsubstituted alkyl, substituted and unsubstituted aryl, substituted and unsubstituted cycloalkyl,

substituted and unsubstituted aralkyl, substituted and unsubstituted heterocyclic residues,  $-SR_3$ ,  $C1$  and  $-NR_3R_4$ ,

in which

$R_3$  and  $R_4$  are independently selected from the group consisting of

H, OH, substituted and unsubstituted acyl, substituted and unsubstituted alkyl, substituted and unsubstituted aryl, substituted and unsubstituted aralkyl, substituted and unsubstituted cycloalkyl and substituted and unsubstituted heterocyclic residues, their pharmaceutically compatible salts, esters thereof, salts of the esters and compounds, which upon administration from the compounds according to formula (I) or their salts or esters as metabolites or catabolites,

and a second active ingredient wherein said second active ingredient is selected from the group consisting of an autoantigen ingredient and an allergen ingredient, wherein said autoantigen ingredient is selected from the group consisting of

at least one autoantigen specific for the autoimmune disease to be treated, fragments of said autoantigens having the same immunological characteristics as said autoantigens, and derivatives of said autoantigens having the same immunological characteristics as said autoantigens,

and wherein said allergen ingredient is selected from the group consisting of

allergens specific for the allergy to be treated, fragments of said allergens having the same immunological characteristics as said allergens, and derivatives of said allergens having the same immunological characteristics as said allergens; and

an excipient.

16. (Amended) The medicament of claim 15, wherein the bisphosphonic acid corresponds to general formula (I) and wherein:

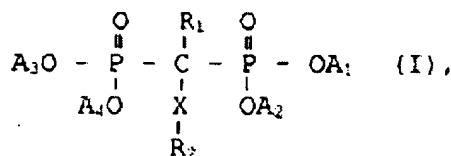
$R_1$  is selected from the group consisting of

H, OH and  $-NH_2$ , and

$R_2$  is selected from the group consisting of

H, OH,  $-NH_2$ , substituted and unsubstituted acyl, substituted and unsubstituted alkyl having 1 to 12 carbon atoms, substituted and unsubstituted aryl, substituted and unsubstituted cycloalkyl, substituted and unsubstituted aralkyl, substituted and unsubstituted heterocyclic residues,  $-SR_3$ , Cl and  $-NR_3R_4$ .

17. (Amended) A medicament for treating an autoimmune disease or allergy, comprising a first active ingredient selected from the group consisting of bisphosphonic acids corresponding to general formula (I)



in which

$A_1$ ,  $A_2$ ,  $A_3$  and  $A_4$  are independently selected from the group consisting of hydrogen, substituted and unsubstituted alkyl, substituted and unsubstituted aryl, substituted and unsubstituted aralkyl, substituted and unsubstituted cycloalkyl, substituted and unsubstituted heterocyclic residues, metals of Groups I, II and III of

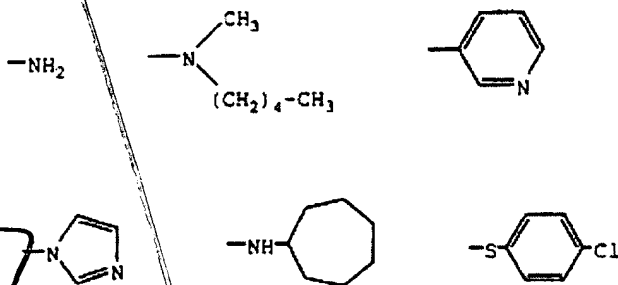
the Periodic Table of the elements, and substituted and unsubstituted ammonium or ammonium compounds derived from ethylenediamine or amino acids,

X is absent or is selected from the group consisting of  $(CH_2)_{1-5}$  and amidino,

$R_1$  is selected from the group consisting of

H and OH, and

$R_2$  is selected from the group consisting of



their pharmaceutically compatible salts, esters thereof, salts of the esters and compounds, which upon administration form the compounds according to formula (I) or their salts or esters as metabolites or catabolites,

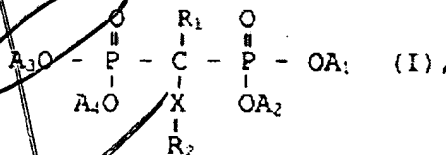
and a second active ingredient wherein said second active ingredient is selected from the group consisting of an autoantigen ingredient and an allergen ingredient, wherein said autoantigen ingredient is selected from the group consisting of

at least one autoantigen specific for the autoimmune disease to be treated, fragments of said autoantigens having the same immunological characteristics as said autoantigens, and derivatives of said autoantigens having the same immunological characteristics as said autoantigens,

and wherein said allergen ingredient is selected from the group consisting of allergens specific for the allergy to be treated, fragments of said allergens having the same immunological characteristics as said allergens, and derivatives of said allergens having the same immunological characteristics as said allergens; and an excipient.

18. (Amended) The medicament of claim 15, wherein the autoantigen is selected from the group consisting of nervous system tissue extracts, collagen, thyroglobulin, acetylcholine receptor protein, DNA, islet cell extracts, human insulin, liver extracts, adrenal cortex extracts, skin extracts, muscle extracts, haemopoietic cell line extracts, heart extracts, eye lens proteins, S-antigens, gastric cell extracts, parietal cell extracts, intrinsic factor, and intestinal extracts.

22. (Amended) A method for treating an autoimmune disease or allergy, comprising administering a first active ingredient selected from the group consisting of bisphosphonic acids corresponding to general formula (I)



in which

A<sub>1</sub>, A<sub>2</sub>, A<sub>3</sub> and A<sub>4</sub> are independently selected from the group consisting of

hydrogen, substituted and unsubstituted alkyl, substituted and unsubstituted aryl, substituted and unsubstituted aralkyl, substituted and unsubstituted cycloalkyl, substituted and unsubstituted heterocyclic residues, metals of Groups I, II and III of the Periodic Table of the elements, and substituted and unsubstituted ammonium or ammonium compounds derived from ethylenediamine or amino acids,

D2  
cm  
X is absent or is selected from the group consisting of alkylene, alkenylene and hydroxyalkylene,

R<sub>1</sub> and R<sub>2</sub> are independently selected from the group consisting of

H, OH, -NH<sub>2</sub>, substituted and unsubstituted acyl, substituted and unsubstituted alkyl, substituted and unsubstituted aryl, substituted and unsubstituted cycloalkyl, substituted and unsubstituted aralkyl, substituted and unsubstituted heterocyclic residues, -SR<sub>3</sub>, Cl and -NR<sub>3</sub>R<sub>4</sub>,

in which

R<sub>3</sub> and R<sub>4</sub> are independently selected from the group consisting of

H, OH, substituted and unsubstituted acyl, substituted and unsubstituted alkyl, substituted and unsubstituted aryl, substituted and unsubstituted aralkyl, substituted and unsubstituted cycloalkyl and substituted and unsubstituted heterocyclic residues, their pharmaceutically compatible salts, esters thereof, salts of the esters and compounds, which upon administration from the compounds according to formula (I) or their salts or esters as metabolites or catabolites,

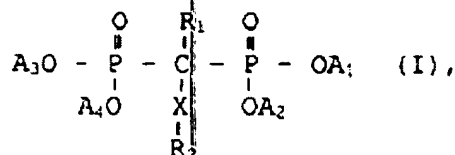
and administering a second active ingredient wherein said second active ingredient is selected from the group consisting of an autoantigen ingredient and an allergen ingredient, wherein said autoantigen ingredient is selected from the group consisting of at least one autoantigen specific for the autoimmune disease to be treated, fragments of said autoantigens having the same immunological characteristics as said autoantigens, and derivatives of said autoantigens having the same immunological characteristics as said autoantigens, and wherein said allergen ingredient is selected from the group consisting of allergens specific for the allergy to be treated, fragments of said allergens having the same immunological characteristics as said allergens, and derivatives of said allergens having the same immunological characteristics as said allergens; and an excipient.

23. (Amended) The method of claim 22, wherein the wherein the bisphosphonic acid corresponds to general formula (I) and wherein:
- $R_1$  is selected from the group consisting of
- H, OH and  $-NH_2$ , and
- $R_2$  is selected from the group consisting of
- H, OH,  $-NH_2$ , substituted and unsubstituted acyl, substituted and unsubstituted alkyl having 1 to 12 carbon atoms, substituted and unsubstituted aryl; substituted and unsubstituted cycloalkyl, substituted and unsubstituted aralkyl, substituted and unsubstituted heterocyclic residues,  $-SR_3$ , C1 and  $-NR_3R_4$ .

24. (Amended) A method for treating an autoimmune disease or allergy, comprising

administering a first active ingredient selected from the group consisting of

bisphosphonic acids corresponding to general formula (I)



in which

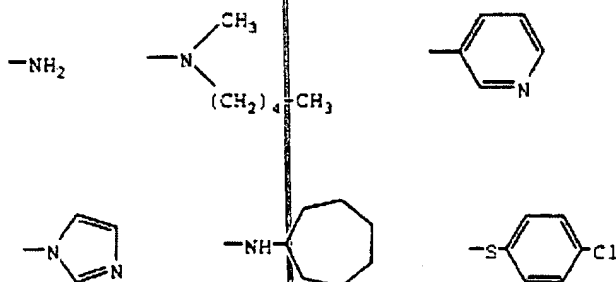
A<sub>1</sub>, A<sub>2</sub>, A<sub>3</sub> and A<sub>4</sub> are independently selected from the group consisting of hydrogen, substituted and unsubstituted alkyl, substituted and unsubstituted aryl, substituted and unsubstituted aralkyl, substituted and unsubstituted cycloalkyl, substituted and unsubstituted heterocyclic residues, metals of Groups I, II and III of the Periodic Table of the elements, and substituted and unsubstituted ammonium or ammonium compounds derived from ethylenediamine or amino acids,

X is absent or is selected from the group consisting of (CH<sub>2</sub>)<sub>1-5</sub> and amidino,

R<sub>1</sub> is selected from the group consisting of

H and OH, and

R<sub>2</sub> is selected from the group consisting of





their pharmaceutically compatible salts, esters thereof, salts of the esters and compounds, which upon administration form the compounds according to formula (I) or their salts or esters as metabolites or catabolites.

*Def  
cont*

and administering a second active ingredient wherein said second active ingredient is selected from the group consisting of an autoantigen ingredient and an allergen ingredient, wherein said autoantigen ingredient is selected from the group consisting of at least one autoantigen specific for the autoimmune disease to be treated, fragments of said autoantigens having the same immunological characteristics as said autoantigens, and derivatives of said autoantigens having the same immunological characteristics as said autoantigens,

and wherein said allergen ingredient is selected from the group consisting of allergens specific for the allergy to be treated, fragments of said allergens having the same immunological characteristics as said allergens, and derivatives of said allergens having the same immunological characteristics as said allergens.

25. (Amended) The method of claim 22, wherein the autoantigen is selected from the group consisting of nervous system tissue extracts, collagen, thyroglobulin, acetylcholine receptor protein, DNA, islet cell extracts, human insulin, liver extracts, adrenal cortex extracts, skin extracts, muscle extracts, haemopoietic cell line extracts, heart extracts, eye lens proteins, S-antigens, gastric cell extracts, parietal cell extracts, intrinsic factor, and intestinal extracts.

D3 29. (Amended) The method according to claim 22, wherein nervous system tissue extracts are administered for the prophylaxis and treatment of multiple sclerosis.

30. (Amended) The method according to claim 29, wherein the nervous system tissue extracts are myelin basic protein (MBP).

D4 33. (Amended) The method according to claim 22, wherein acetylcholine receptor protein is administered for the prophylaxis and treatment of myasthenia gravis.

D5 35. (Amended) The method according to claim 22, wherein the autoantigen administered for the prophylaxis and treatment of diabetes mellitus is selected from the group consisting of islet cell extracts and human insulin.

D6 38. (Amended) The method according to claim 22, wherein adrenal cortex extracts are administered for the prophylaxis and treatment of a disease selected from the group consisting of adrenalitis and Addison's disease.

D7 40. (Amended) The method according to claim 22, wherein the autoantigen administered for the prophylaxis and treatment of polymyositis is selected from the group consisting of skin extracts and muscle extracts.